Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)
)
Principles for Reallocation of Spectrum)
to Encourage the Development of)
Telecommunications Technologies)
for the New Millennium)

Policy Statement

Adopted: November 18, 1999; Released: November 22, 1999

By the Commission: Commissioner Ness issuing a statement; Commissioner Furchtgott-Roth Approving in part, dissenting in part and issuing a statement.

INTRODUCTION

1. Over the past decade, we have experienced unparalleled growth in wireless communications. For example, capital investment in the wireless mobile industry alone has more than quadrupled since 1993 for a cumulative total of over $60 billion through 1998. New wireless technologies have contributed substantially to economic growth in this country. This tremendous growth would not have been possible without the availability of additional spectrum for new technologies and services and relaxed restrictions on the licensing of spectrum.

2. This Policy Statement sets forth guiding principles for the Commission's spectrum management activities as we move into the new millennium. As noted in the Commission's *En Banc* hearing on Spectrum Management held in April of 1999, demand for spectrum has increased dramatically as a result of explosive growth in wireless communications. The principles articulated herein reflect information presented at the *En Banc* and are designed to respond to increasing demands for spectrum. Our intent is to pursue policies that promote competition and encourage the development of emerging telecommunications technologies as we enter the next century. With increased demand for a finite supply of spectrum, the Commission's spectrum management activities must focus on allowing spectrum markets to become more efficient and increasing the amount of spectrum available for use. This Policy Statement does not address, and is not intended to address, the public interest obligations of broadcasters and other users of the spectrum under various provisions of the Communications

Act.

3. The principles articulated in this statement will serve as a guidepost for the reallocation of approximately 200 megahertz of spectrum mandated by Congress over the next three to five years. This spectrum will enable a broad range of new radio communication services, such as expanded wireless services, advanced mobile services, new spectrum-efficient private land mobile systems, and medical telemetry systems to become operational. Specific proposals for the allocations indicated herein and the various issues relating to those proposals will be addressed in separate proceedings. We emphasize that the concepts and spectrum allocations discussed in this Policy Statement may evolve as the proceedings it envisions unfold. Interested parties will be provided opportunity to comment on our proposals and related issues in the context of those proceedings.

BACKGROUND

4. With the rapid advancements in radio technologies in recent years, particularly in the areas of integrated circuitry, signal processing and digital systems, we have seen the development of a wide range of new radio communications technologies. The advent of these new technologies has been accompanied by increased demand for spectrum to permit the operation and growth of new radio services. These new services have included, for example, the personal communications services (PCS), advanced paging systems, intelligent transportation services (ITS), mobile satellite services (MSS) and two-way multipoint distribution service (MDS) operation.

5. Technological advances, consumer demand, and the finite nature of spectrum have made our spectrum management responsibilities increasingly complex. There is very little unencumbered spectrum available for new services. With the exception of small "slivers" of spectrum that are not sufficient to support high volume services, the available spectrum is already occupied by existing uses. New services therefore have had to be implemented either through sharing with existing operations or through reallocation of spectrum from existing services to new services and technologies. In the latter case, plans have been implemented to relocate existing operations to other, generally higher, frequency bands or to remove existing services altogether from the subject bands.

SPECTRUM PLAN FOR THE NEW MILLENIUM

A. Spectrum Policy

6. Spectrum management is one of the Commission's core functions.[1] This core function would continue unabated despite dramatic changes in the U.S. communications industry. In fact, increasing demand generated by new services in a more competitive environment will make this function increasingly important and more difficult.

7. The Commission is charged with the complicated task of managing the spectrum to advance the pro-competitive goals of the Communications Act of 1934 and the Telecommunications Act of 1996, while at the same time ensuring that other public interest goals are met.[2] The growing demand for spectrum by new services and the continuing development of radio communications technologies make spectrum management a unique challenge. Spectrum is a valuable and finite public resource that must be allocated and assigned in a manner that will provide the greatest possible benefit to the American public. At the same time, it is important to encourage the development and deployment of new, more efficient technologies that will increase the amount of information that can be transmitted in a given amount of bandwidth.

8. The Chairman's draft S*trategic Plan* recognized the inherent complexities in making both efficient and equitable spectrum allocations, and called upon the Commission to define policies that would maximize the efficient use of spectrum and make more spectrum available while ensuring that the needs of the public are served. This Policy Statement articulates the spectrum management policies that will best serve the public interest as we enter the new millennium. The reallocation of approximately 200 megahertz of spectrum mentioned earlier provides an excellent opportunity to apply these policies to maximize competitive opportunities.

(1) Promote Greater Efficiency in Spectrum Markets

9. *Allocation*: In the majority of cases, efficient spectrum markets will lead to use of spectrum for the highest value end use. Flexible allocations may result in more efficient spectrum markets. Flexibility can be permitted through the use of relaxed service rules, which would allow licensees greater freedom in determining the specific services to be offered. Another way to allow flexibility in use of the spectrum is to allow licensees to negotiate among themselves arrangements for avoiding interference rather than apply mandatory technical rules to control interference. A third possibility is to harmonize the rules for like services.

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[1] In his recently released draft strategic plan "*A New FCC for the 21st Century*" (*Strategic Plan*), FCC Chairman William E. Kennard identified spectrum management as one of the Commission's four key functions. *See* "*A New FCC for the 21st Century,"* available on the Internet at http://www.fcc.gov/21st century/. Paper copies are available from ITS, the FCC's duplicating contractor, at (202) 857-3800.

[2] *See*, e.g., 47 U.S.C. §§ 309(j), 706.

Harmonization provides regulatory neutrality to help establish a level playing field across technologies and thereby foster more effective competition. Such a structure would permit reliance on the marketplace to achieve the highest-valued use of the spectrum. It would also ensure that the Commission and its processes do not become a bottleneck in bringing new radio communications services and technologies to the public.

10. *New Technology:* In addition, we will consider petitions to permit the use of new technologies, such as ultra-wideband and spread spectrum operations. These applications offer significant opportunity for more efficient use of the spectrum. We plan to initiate a rule making to accommodate ultra-wideband technology in the near future.

11. *Equity:* We also recognize that there are some situations where a flexible allocation may interfere with important public interest goals. For example, a flexible approach would not be appropriate where market forces would fail to provide for the operation of important services, such as public safety communications, or to achieve important public policy goals relating to the allocation of spectrum. In cases involving important services, such as public safety, the allocation of spectrum for such uses, coupled with the statutory exceptions to the Commission's auction authority, serve to facilitate access to the spectrum by providers of these services by obviating their need to expend resources to compete with other parties seeking to offer service with high economic value. Similarly, limiting spectrum use to public safety or other specific purposes enables providers of these services to apply their full resources to furnish the critical service, rather than expending a substantial portion of their limited budgets to obtain spectrum rights. A highly flexible approach to spectrum usage in all bands might also delay the achievement of important operational goals, like the ability of public safety radio operators to communicate seamlessly with all other such operators or in bands shared with the Government or in areas along U.S. borders. A flexible allocation also may not be appropriate in some instances where particular uses of spectrum are inconsistent with international allocations or domestic or international policy. Technical standards and other rules may also be appropriate for some mass media services, like broadcasting, where the certainty of standards may serve to promote the rapid development of consumer equipment and/or where it is important that individual users be able to receive the transmissions of multiple service providers.

12. *Assignment*: Innovative and streamlined assignment mechanisms will facilitate rapid deployment of spectrum-based services into the marketplace. We intend to explore options for innovative assignment mechanisms that enable parties to more easily aggregate and disaggregate spectrum for alternative uses. One such approach could be to make spectrum available to individual users through a "band manager." Under this approach, blocks of spectrum would be licensed to band managers by competitive bidding, who would subdivide and lease portions of their spectrum in response to market demand. The prices charged to users would be set by competition among the band managers. The Commission will also consider ways to improve the operation of the spectrum market. One option we intend to explore is the concept of "two-sided" auctions, where existing licensees could opt to offer their licenses in conjunction with a Commission auction of licenses for new spectrum, in exchange for relocation to other spectrum

or other compensation. This approach could be used in conjunction with a combinatorial bidding process in which parties could bid for highly complementary licenses in a package. The result could yield more desirable frequency and geographic assignments for purchasers. A combinatorial bidding approach might also be more attractive to bidders, in that it would limit their exposure to the risk of not being able to acquire an entire package of licenses that they would need to implement a viable business plan. While we have explicit authority to consider combinatorial auctions,[3] we will need to assess any legal obstacles to the other options discussed in this paragraph.

13. *Secondary Market*: An active secondary market will facilitate full utilization of spectrum by the highest value end users. To facilitate the development of a secondary market for spectrum, we plan to establish a public database on spectrum incumbency that would include data on both existing licensees and available licenses. In addition, the Commission will participate in roundtable discussions with industry and academia to consider other ways to expand the secondary market by bringing together prospective buyers and sellers of "after market" spectrum. We also intend to pursue approaches for streamlining our license transfer procedures and for allowing licensees to aggregate and disaggregate the spectrum rights held under licenses to facilitate more efficient operation of secondary spectrum markets. We will continue to consider, consistent with our statutory authority, policies such as the use of tax certificates and other market-based incentives, to expand the potential number of entities considering secondary market transactions.[4]

(2) Make More Spectrum Available

14. As demand for spectrum is expected to continue to increase, the Commission must aggressively work to make more spectrum available. An important near-term step in meeting demand is the reallocation of over 200 MHz of spectrum identified in this Policy Statement. However, this spectrum will not satisfy all existing or future needs. To increase the amount of spectrum that is available, we plan to develop and encourage the implementation of market-oriented strategies for clearing encumbered spectrum. Increasing the supply of spectrum will lower its price and, thereby, reduce the cost of radio services. One way to speed the clearing of spectrum is to provide incentives for existing users to relocate, either to different frequencies in another part of the spectrum or to a non-radio based transmission medium such as wire or fiber optic cable. We are also aware that spectrum management approaches are in use in other parts of the world that may merit consideration in the United States, although we recognize that

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[3] Section 309(j)(3) of the Communications Act of 1934, as amended, 47 U.S.C. 309(j)(3).

[4] The Commission has specific authority to consider the use of tax certificates in developing systems of competitive bidding that ensure that small businesses, rural telephone companies, and businesses owned by members of minority groups and women are given the opportunity to participate in the provision of spectrum-based services, *see* 47 U.S.C. 309(j)(D). In addition, legislation that would authorize the Commission to issue tax certificates in certain situations to encourage diversity in ownership of telecommunications services has been introduced in the United States Senate by Senate McCain. *See* S.1711, "Telecommunications Ownership Diversification Act of 1999."

legislative action may be required. For example, some countries assess fees for use of the spectrum. This tends to discourage licensees from obtaining license rights to more spectrum than they might need, thereby allowing recovery of portions of the spectrum allocated to an existing service. We also intend to continue to examine the existing spectrum allocations to determine where all or portions of the spectrum allocated to existing services can be reallocated to increase the amount of spectrum available for higher-valued new uses. For example, in providing for the introduction and deployment of digital television (DTV) service, the Commission identified 108 megahertz of spectrum for reallocation from broadcast television service to other new services.[5] We similarly intend to continue to make use of approaches to improve the efficiency of existing services in terms of both number of individual users and information throughput, such as was done in "re-farming" certain land mobile frequency bands.

B. Spectrum Availability

15. In order to make spectrum available for new services, the Commission has undertaken the reallocation of significant amounts of spectrum from existing non-Government and Government uses to new technology services under its 1992 Emerging Technologies proceeding, ET Docket No. 92-9, and under two statutory directives - the 1993 Omnibus Budget Reconciliation Act (1993 Budget Act) and the 1997 Balanced Budget Act (1997 Budget Act).[6] In the Emerging Technologies proceeding, the Commission reallocated spectrum in the 2 GHz region from existing non-Government fixed uses to new services. In the 1993 Budget Act and the 1997 Budget Act, Congress mandated transfers of spectrum from Federal Government use to non-Government or mixed Government and non-Government use. Congress also specified that certain spectrum currently allocated to private sector services be reallocated to new uses. It further prescribed that some of the newly available spectrum be made available for public safety communications.

16. There is currently 202 megahertz of spectrum remaining from the frequency bands that were to be made available under the spectrum recovery efforts indicated above.[7] Much of

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[5] Once the transition to DTV service is complete, the Commission will recover the 48 megahertz at channels 52-59 (the 698-746 MHz band) and the portions of the 60 megahertz at channels 60-69 (the 746-806 MHz band) that are being used for analog and DTV service during the transition. Channels 60-69 have already been recovered from broadcast television service in areas where there are no existing analog or allotted DTV stations. *See Sixth Report and Order* in MM Docket No. 87-268, 12 FCC Rcd 14588 (1997); *Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order* in MM Docket No. 87-268, 13 FCC Rcd 7418 (1998); and *Report and Order* in ET Docket No. 97-157, 12 FCC Rcd 22953 (1998).

[6] *See First Report and Order and Third Notice of Proposed Rule Making* in ET Docket No. 92-9, 7 FCC Rcd 6886 (1992) (*First Report and Order* in ET Docket No. 92-9); Omnibus Budget Reconciliation Act of 1993 (OBRA-93), Pub. L. No. 103-66, 107 Stat. 312 (1993); and Balanced Budget Act of 1997 (BBA-97), Pub. L. No. 105-33, 111 Stat. 251 (1997). *See also Special Reallocation Final Report, NTIA Special Pub. 95-23 (1995)* (*1995 NTIA Spectrum Report*); and *Spectrum Reallocation Report*, NTIA Special Pub. 98-36 (1998) (*Second NTIA Spectrum Reallocation Report).*

[7] Of the 590 megahertz of spectrum that was made available for new non-Government services under the 1992

this spectrum is located in bands below 3 GHz and would be suitable for a wide range of emerging technologies and services, including mobile services. In addition, there are frequency blocks of varying size within this spectrum that can accommodate the differing needs of the variety of new services now seeking allocations. We therefore believe the spectrum remaining available in the bands designated for recovery will be well suited to the needs of the new radio communications technologies and services that will be introduced as we enter the new millennium.

17. Of the available spectrum, 187 megahertz is in 13 frequency bands: 216-220 MHz, 698-746 MHz, 1390-1395 MHz, 1427-1429 MHz, 1432-1435 MHz, 1670-1675 MHz, 1710-1755 MHz, 2160-2165 MHz, 2300-2305 MHz, 2385-2390 MHz, 2400-2402 MHz, 2417-2450 MHz, and 4635-4660 MHz.[8] Under the 1997 Budget Act, Section 3002(c), the National Telecommunications and Information Administration (NTIA) was required to identify 15 megahertz to be reallocated from Government to non-Government use for assignment by competitive bidding within the range 1990 – 2110 MHz, or to identify alternative spectrum that would yield comparable value. NTIA subsequently identified the following frequency bands that could be assigned by competitive bidding as a substitute for the 15 MHz: 944-960 MHz, 1390-1400 MHz, 1427-1432 MHz, 1670-1675 MHz, 2500-2690 MHz, and 3650-3700 MHz.[9] As required by the 1993 Budget Act, the Commission has also established a reserve of a significant portion of the transferred spectrum for future uses, to be assigned after March 22, 2006.[10] This reserve is 57 megahertz of spectrum in four bands, at 1390-1395 MHz, 1427-1429 MHz, 1670-1675 MHz, and 1710-1755 MHz.[11]

18. Much of the available spectrum is subject to statutory requirements that it be

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Emerging Technologies proceeding, 1993 Budget Act, and the 1997 Budget Act, 290 megahertz has already been reallocated by the Commission for new services and 98 megahertz is planned or proposed for specific new allocations in proceedings currently underway.

[8] In the *Notice of Proposed Rule Making* in ET Docket No. 99-255, FCC 99-182, released July 16, 1999, we proposed, *inter alia*, to allocate 8 megahertz of the spectrum transferred from Government use, at 1395-1400 MHz and 1429-1432 MHz, as additional spectrum for wireless medical telemetry services (WMTS) on a shared basis with the mobile satellite service. We also indicated that we intend to consider allocating 9 megahertz of the transferred spectrum, at 1391-1400 MHz, as an alternative to our 8 megahertz proposal. If adopted, this proposal would reduce the amount of spectrum available for new services an additional 1 megahertz, to 186 megahertz.

[9] See *Identification of Alternate Bands*, NTIA Special Pub. 98-39 (1998), at pp. 25-29.

[10] *See* 1997 Budget Act, ' 6001(a) and *Plan for Reallocated Spectrum* (1996 *FCC Spectrum Plan*), FCC 96-125 (released March 22, 1996), at paras. 4, 64, and 65.

[11] The spectrum reserve originally also included the 1395-1400 MHz and 1429-1432 MHz bands that were subsequently proposed for wireless medical telemetry devices in ET Docket No. 99-255, for a total of 65 megahertz. *See Plan for Reallocated Spectrum,* at paras. 4, 64, and 65. The Balanced Budget Act of 1997 requires the NTIA to accelerate the availability of the 1710-1755 MHz band to allow auctioning of this spectrum to commence after January 1, 2001, and to be completed by September 30, 2002. *See* BBA-97, Section 3002(b).

reallocated and auctioned by specific dates. In addition, portions of this spectrum that are being transferred from Government use will not be available for new uses until after the year 2000, and some, possibly all, of the 698-746 MHz band now used by the TV Broadcasting Service may not be available for a long period of time. There are also other considerations associated with many of the bands that will affect their availability and/or suitability for new services. For example, in many of the transferred bands new services will be required to protect existing Government operations that will continue to operate after the bands are otherwise transferred.[12] Despite these considerations, this 202 megahertz of spectrum provides an array of resources for the operation of new radio communications services that will emerge as we enter the next millennium. Therefore, we believe that it is important to set forth our policies and objectives for this spectrum and our allocation plans for each of the specific frequency bands. The available frequency bands are shown in the following table:

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[12] The dates on which each of the spectrum bands to be reallocated are scheduled to be available for new services and other considerations affecting the availability and suitability of individual bands are indicated in Appendix A. The bands already proposed for reallocation in separate proceedings underway are shown in Appendix B.

Available Frequencies

Frequency Band	Bandwidth (MHz)
216-220	4
698-746	48
1390-1395 1/	5
1427-1429 1/	2
1432-1435	3
1670-1675 1/	5
1710-1755 1/	45
2160-2165	5
2300-2305	5
2385-2390	5
2400-2402	2
2417-2450	33
4635-4660 2/	25
To Be Determined 3/	15
Total Available	202
Already Allocated 2/	290
Proposed for Allocations in Outstanding Proceedings [2110-2150 MHz; 3650-3700 MHz, 1395-1400 MHz, and 1429-1432 MHz]	98
TOTAL	590

1/ Previously part of reserve mandated by OBRA-93; however BBA 97 accelerated auction of the 1710-1755 MHz band to 2001.
2/ See discussion below on NTIA's substitution of the band 4940-4990 MHz for the 4635-4660 band and the 4660-4685 MHz band that was reallocated previously for the General Wireless Communications Service.
3/ NTIA recommends the 944-960, 1390-1400, 1427-1432, 1670-1675, 2500-2690, and 3650-3700 MHz bands as candidates for this spectrum.

C. Band Plan For Reallocated Spectrum

19. In developing our spectrum plan for the new millennium, we have considered the statutory requirements for reallocating and auctioning the available spectrum, the statutory requirement that we maintain a reserve of spectrum for future uses, the availability and suitability considerations associated with each of the bands, our spectrum policy goals as discussed above, and the various identified needs for new spectrum that are currently before us.

20. Consistent with the auction requirements of the 1993 and 1997 Budget Acts, we plan to allocate a major portion of the available spectrum -- 151 megahertz -- for services in which licenses will be assigned by competitive bidding consistent with the principles articulated above.

These allocations will be as flexible as possible, given the equity concerns discussed above in paragraph 11. We also recognize that technical parameters may be required to address interference issues.

21. We plan to consider: 1) providing additional frequencies for the General Wireless Communications Service (GWCS), 2) establishing a new Advanced Mobile and Fixed Communications Service (AMFCS), 3) establishing a new Land Mobile Communications Service (LMCS) that makes use of spectrum efficient radio technologies, 4) reallocating existing TV channels 52-59 for Fixed, Mobile and new broadcast services, and 5) allocating additional spectrum for Fixed and Mobile Service. Consistent with statutory requirements, this plan maintains a portion of the spectrum as a reserve for future use after the year 2006. In order to provide the most appropriate frequency bands for each of these services and to accommodate new statutory requirements, we are, however, replacing the bands included in the existing frequency reserve with alternative spectrum.

22. The General Wireless Communications Service, a recently established flexible use fixed/mobile wireless service, was initially allocated 25 megahertz at 4660-4685 MHz. Based on the paucity of interest, this spectrum has not yet been auctioned or otherwise licensed. We believe that 25 megahertz may not be a sufficient allocation to support development of GWCS operations in this region of the spectrum. We therefore believe it is appropriate to consider increasing the amount of spectrum allocated for the GWCS. Under the plan for transfer of spectrum from Government to non-Government uses identified by NTIA in response to the 1993 Budget Act, the adjacent 4635-4660 MHz band was also scheduled for transfer for reallocation. This would have allowed a contiguous band of 50 megahertz to be made available for the GWCS. However, in a letter of March 30, 1999, to the Chairman of the FCC, the NTIA administrator, on behalf of the President, reclaimed the 4635-4685 MHz band for government use and identified as substitute alternative spectrum the 4940-4990 MHz band.[13] Based on this change, we plan to consider relocating the GWCS allocation and expanding it to occupy the 50 megahertz in the 4940-4990 MHz band recently substituted by NTIA. This will result in a net increase of 25 megahertz of spectrum to be assigned through competitive bidding for GWCS. As we have not yet conducted an auction of the 4660-4685 MHz spectrum or issued any licenses for use of those frequencies, relocating the GWCS spectrum is not expected to impose any costs on the private sector.

23. Next, we will consider providing a major allocation of 90 megahertz for an Advanced Mobile and Fixed Communications Service. This would be a new flexible use service available for mobile and fixed wireless service. One possible use of this spectrum would be for the introduction of future "third generation" mobile telecommunications systems, also known as

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[13] *See* Letter and accompanying Statement of Reasons from Larry Irving, Administrator, National Telecommunications and Information Administration, and Assistant Secretary for Communications and Information, U.S. Department of Commerce to William E. Kennard, Chairman, Federal Communications Commission (Mar. 30, 1999).

International Mobile Telecommunications - 2000 (IMT-2000), that would provide telecommunications services on a world-wide scale regardless of location, network, or terminal used.[14] We will propose allocating 50 megahertz at 1710-1755 MHz and 2160-2165 MHz from the available spectrum for the AMFCS. To complete the full 90 megahertz allocation, we will consider designating the 40 megahertz at 2110-2150 MHz that we have proposed for the Fixed and Mobile Service, for the new AMFCS.[15] We believe this allocation would provide sufficient bandwidth to support commercial AMFCS operation by multiple competing operators. We also observe that a portion of these bands correspond to the frequencies identified for IMT-2000 at the 1992 World Administrative Radio Conference (WARC-92), which would facilitate international roaming.[16]

24. The Land Mobile Communications Council (LMCC) has expressed a need for additional spectrum for private land mobile use. Private land mobile radio systems are used by businesses to meet their specialized mobile communications requirements. The LMCC has requested additional spectrum to relieve congestion in the existing private land mobile radio bands and to provide opportunities for use of new spectrum efficient technologies that would improve and enhance business radio communications.[17] To meet this need, we will consider establishing a new Land Mobile Communications Service in 10 megahertz of spectrum in the 1390-1395 MHz, 1427-1429 MHz, and 1432-1435 MHz bands.[18] We believe that these bands, while not contiguous, are sufficiently close together to allow manufacturers to design cost

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[14] IMT-2000 is the International Telecommunication Union's (ITU) vision of global mobile access in the 21st century. This service will use a "next-generation" mobile wireless telecommunications approach that integrates terrestrial mobile and mobile satellite systems to allow different types of wireless access to be provided on a global basis, including services available through the fixed telecommunication networks and those specific to mobile users.

[15] *See Memorandum Opinion and Order and Third Notice of Proposed Rule Making and Order* in ET Docket No. 95-18, 13 FCC Rcd 23949 (1998).

[16] WARC-92 identified 210 megahertz, at 1885-2025 MHz and 2110-2200 MHz, for use on a worldwide basis by administrations wishing to implement IMT-2000 systems. *See* S5.388 of the ITU Radio Regulations.

[17] *See Petition for Rule Making* filed by the LMCC on April 22, 1998. The LMCC is a non-profit association of organizations representing virtually all users of land mobile radio systems, providers of land mobile services, and manufacturers of land mobile equipment.

[18] NTIA originally identified an additional 3 MHz of spectrum at 139.0-140.5 MHz and 141.5-143 MHz for transfer from Government to non-Government use. However, the DoD Authorization Bill cancelled the reallocation of these three megahertz. *See* DoD Authorization Bill, Section 1062(c)(A). We note that the National Public Safety Telecommunications Council (NPSTC) requested that we designate this spectrum for the exclusive use of public safety interoperability communications. *See Petition for Rule Making* filed by the NPSTC on April 4, 1999. In seeking access to this spectrum, the NPSTC indicates that the Public Safety Wireless Advisory Committee (PSWAC), an inter-industry advisory committee established jointly by the Commission and the NTIA, has recommended that we allocate 2.5 megahertz of spectrum in the 138-152 MHz range for public safety interoperability communications. We note that the conference report accompanying the DoD Authorization Bill invites DoD to consider providing access to this spectrum to meet state and local public safety requirements. We will coordinate with NTIA in this regard.

effective equipment.[19] In planning for this new service, we recognize that, with a few exceptions not generally applicable to prospective users of the potential LMCS, the 1997 Budget Act requires the Commission to assign licenses for all spectrum reallocated pursuant to that Act, *i.e.*, 1432-1435 MHz in this case, by competitive bidding if there are mutually exclusive applicants for those licenses. Further, we note that it is the position of NTIA that the 1997 Budget Act requires that licenses for use of these bands be assigned by competitive bidding.[20] We recognize that private land mobile radio licenses have traditionally been granted to individual users on a non-competitive basis, and that there may be strong public policy reasons to employ strategies collateral to auctions for ensuring that this spectrum is used for the highest valued purposes. For example, licenses for spectrum blocks could be auctioned to band managers, who would have the responsibility to subdivide these blocks in an appropriate fashion for lease to private radio users. We are also aware that Little LEO satellite operators are seeking spectrum for feeder links in the region of this spectrum and will consider the impact of allocations for other services on the possible use of this band for Little LEO feeder links.

25. We plan to consider reallocating the 48 megahertz at 698-746 MHz (TV channels 52-59) for Fixed, Mobile and new broadcast services for commercial uses following the same approach we adopted recently in reallocating the 36 megahertz at 746-764 MHz and 776-794 MHz bands (TV channels 60-62 and 64-66).[21] As with that previous reallocation action, we believe this 48 megahertz of spectrum at 698-746 MHz can be used to make a variety of new technologies and services available to the American public. The 1997 Balanced Budget Act requires that this spectrum to be auctioned no later than September 30, 2002.[22] However, existing TV service and the service of new digital television (DTV) stations will continue on channel allotments in this band until at least December 31, 2006, when the transition to DTV service is scheduled to end and all television stations are to be located on channels in the DTV core spectrum (Channels 2-51).[23] The service rules for any new services on 698-746 MHz

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[19] The 1385-1390 MHz band was also identified by NTIA for reallocation for non-Government use. However, the "National Defense Authorization Act for the Fiscal Year 2000" (Department of Defense or DoD Authorization Bill), enacted on October 5, 1999, cancelled the reallocation of this 5 megahertz. *See* Pub. L. 106-65, 106th Cong., 1st Sess., § 1062(c)(B).

[20] NTIA and the Office of Management and Budget have asserted the same view of the 1997 Budget Act's requirements in an earlier proceeding before the Commission. *See Develop of Operational, Technical and Spectrum Requirements For Meeting Federal, State, and Local Public Safety Agency Communication Requirements Through the Year 2010, Notice of Proposed Rule Making* in WT Docket No. 96-86, Comments of NTIA at 13 (Jan. 19, 1999); Reply Comments of NTIA at 2 (Feb. 18, 1999); Letter from Michael Deich, Associate Director for General Government and Finance, Office of Management and Budget, to William E. Kennard, Chairman, Federal Communications Commission (Jan. 4, 1999).

[21] *See Report and Order* in ET Docket No. 97-157, 12 FCC Rcd 22953 (1998).

[22] *See* 1997 Balanced Budget Act, Section 3003, as codified at Section 309(j)(14)(C)(*ii*) of the Communications Act of 1934, as amended, 47 U.S.C. 309(j)(14)(C)(*ii*).

[23] *See Sixth Report and Order* in MM Docket No. 87-268, at paras. 76-84 and *Memorandum Opinion and Order* in MM Docket No. 87-268, at paras. 42-46.

frequencies will therefore have to provide for the protection of those stations during the DTV transition.[24]

26. We also intend to consider allocating the 10 megahertz at 1670-1675 MHz and 2385-2390 MHz for Fixed and Mobile Service and adopt appropriate service rules to permit licensees flexibility in the types of service to be offered and the technologies used to provide those services. Our planned reallocation of these bands would provide additional spectrum for expanded development of new services and technologies that may emerge.

27. The remaining spectrum identified by NTIA for transfer from Government to non-Government use are the 4 megahertz at 216-220 MHz and 15 megahertz from within the 944-960 MHz, 1390-1400 MHz, 1427-1432 MHz, 1670-1675 MHz, 2500-2690 MHz, and 3650-3700 MHz bands. In considering this spectrum for new services, we first see that the 216-220 MHz, 944-960 MHz, and 2500-2690 MHz bands are already used extensively for existing non-Government services.[25] The presence of these existing services would appear to limit the opportunities for licensing new services on these frequencies. We are unsure of the feasibility of licensing new services in these bands in a manner that would be attractive to competitive bidders. In view of these considerations, we are not proposing new allocations from this spectrum at this time and our Office of Engineering and Technology will work with NTIA to clarify how this spectrum could be made available for new services in a manner that would be attractive to new licensees in a competitive bidding process. We also observe that the 1390-1400 MHz, 1427-1432 MHz, 1670-1675 MHz and 3650-3700 MHz bands were transferred from Government to non-Government use under the 1993 Budget Act and either are included in the planned allocations actions indicated above, or have already been proposed for reallocation previous to NTIA's recommendation of alternate spectrum for the 15 megahertz of Government spectrum that was to be transferred from the 1990-2100 MHz region. While these allocations may provide spectrum that could be made available through auctions as a substitute for auction of the 15 megahertz, they would not provide additional spectrum for new uses outside of the allocations discussed above.

28. The above allocation plans will require use of all of the frequency bands now included in the reserve of spectrum for future uses required under the 1993 Budget Act. We therefore are replacing the existing spectrum reserve with a new reserve of 40 megahertz in the three frequency bands at 2300-2305 MHz, 2400-2402 MHz, and 2417-2450 MHz.[26] The

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[24] The *Report and Order* in ET Docket No. 97-157 also provides for continued use of TV channels 60-69 by low power TV and TV translator stations on a secondary basis until the end of the DTV transition.

[25] See Appendix A.

[26] The 1993 Budget Act does not require that a specific amount of spectrum be held in reserve, only that a significant portion of the transferred spectrum be kept for future uses. Specifically, Section 6001(a) of the 1993 Budget Act provides that the Commission's plan for allocating and assigning the transferred spectrum shall reserve a significant portion of such frequencies for allocation and assignment beginning after the end of [a ten-year period that begins on

5 megahertz in the 2300-2305 MHz band has generally been transferred from Government use, but any operations in this band would be subject to significant constraints in order to protect the reception of signals from the Government's Deep Space Network that will remain in the band. The 35 megahertz in the 2400-2402 MHz and 2417-2450 MHz bands are currently used by Industrial, Scientific and Medical equipment and very low power radio devices. This existing use restricts the availability of the bands for new services given current sharing techniques. In view of these considerations relating to existing uses, we believe it is reasonable to reserve the 2300-2305 MHz, 2400-2402 MHz, and 2417-2450 MHz bands until a future time, when new technology or other changes may increase the opportunities for new operations in these bands. Nevertheless, we will be receptive to petitions for reallocation of the reserve spectrum bands.

CONCLUSION

29. The plan set forth in this Policy Statement is intended to establish a framework for the Commission's spectrum management responsibilities as we enter the new millennium to facilitate a competitive marketplace. Increased demand for spectrum-based technology and services necessitates an innovative and aggressive market-based policy. At the same time, the Commission must ensure that the public interest is best served through both efficient and equitable allocations.

30. This band plan will complete the redevelopment of a substantial amount of spectrum as required under the 1993 and 1997 Budget Acts. This spectrum will be used to meet the needs of a broad range of telecommunications technologies and services that are emerging as we prepare to enter the next century. The actions contemplated under this plan will be accomplished through a series of rule making proceedings in which frequencies will be reallocated from existing Government and non-Government uses to new flexible use allocations for the private sector. We intend to initiate and complete these reallocation proceedings and, as appropriate, associated license proceedings in a timely manner consistent with the schedules required under the 1993 and 1997 Budget Acts and the needs of new users.

FEDERAL COMMUNICATIONS COMMISSION

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the date of the submission of that plan to the President and the Congress, *i.e.*, March 22, 1996].

Magalie Roman Salas
Secretary

APPENDIX A
Spectrum Availability Information

Spectrum Availability

Band	Auction or Assignment Date/Available Date/Considerations
216-220 MHz	Auction by September 30, 2002/ Available January 1, 2002/ The 216-220 MHz band is allocated internationally in Region 2 on a primary basis to the Fixed and Maritime Mobile Services, and on a secondary basis to the Radiolocation Service. Domestically, this band is allocated on a primary basis to both the Government and the non-Government Maritime Mobile Service and on a secondary basis to the Government Radiolocation Service, the Government and non-Government Aeronautical Mobile, Fixed, and Land Mobile Services, and the non-Government Amateur Radio Service.[27] Government primary users of this band include the Armed Forces, the U.S. Geological Survey, and the Departments of Energy, Justice, Treasury, and Interior. It is used on a co-primary basis by the non-Government Maritime Mobile Service, and on a co-secondary basis by the Aeronautical Mobile, Fixed, Land Mobile, and Amateur Services. NTIA indicates that nine sites where the U.S. Navy operates its space surveillance (SPASUR) radar system on 216.965-216.995 MHz will have to be protected indefinitely.[28] The 216-218 MHz and 219-220 MHz segments of this band are used on a primary basis by the Automated Maritime Telecommunication System (AMTS) for ship-to-shore voice and data communications. Most AMTS operations are located along or near the Mississippi River, Ohio River, and the Gulf Coast. The 218-219 MHz band segment has been auctioned for Interactive Video and Data Service operations (now termed the "218-219 MHz Service"). Other uses of the 216-220 MHz band include amateur radio, tracking stolen currency, and wildlife and ocean buoy tracking and telemetering. Any new operations in this band will have to protect broadcast television service operating on channel 13, which is on the adjacent band at 210-216 MHz.
698-746 MHz	Auction by September 30, 2002/ Available January 1, 2007, or possibly later on a market-by-market and channel-by-channel basis, depending on the availability of DTV television service and receivers/ Internationally,

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[27] *See* 47 CFR Section 2.106.

[28] *See Second NTIA Spectrum Reallocation Report*, at Section 3, p. 18.

	this spectrum is allocated in Region 2 for the United States on a primary basis to the Broadcasting, Fixed and Mobile Services. In addition, within the 698-746 MHz band segment, assignments may be made to television stations using frequency modulation in the Broadcasting-satellite Service subject to agreement between administrations concerned and those having services that might be affected. Domestically, this band is allocated on a primary basis to the Broadcasting Service. This band is also allocated to the Fixed Service to permit subscription television operations. Further, TV broadcast licensees or permittees are permitted to use subcarriers on a secondary basis for both broadcast and non-broadcast purposes.[29] This spectrum is currently designated as TV channels 52-59 and is used by existing analog full service stations, Low Power TV stations, TV translator and booster stations, and new DTV television stations. Television stations will cease operations on these channels at the end of the DTV transition.[30]
1390-1395 MHz	Assign after March 22, 2006 (1993 Budget Act reserve spectrum)/ Available January 1, 1999/ The 1390-1395 MHz band is a segment of the 1390-1400 MHz band. (The 1395-1400 MHz segment has already been proposed for re-allocation in an earlier Commission action.) The 1390-1400 MHz band is allocated internationally on a primary basis in Region 2 to the Radiolocation Service, and on a secondary basis to the Space Research (passive) and Earth-exploration Satellite (passive) Services. Domestically, this band is allocated on a primary basis to the Government Radiolocation Service, and on a secondary basis to the Government Fixed and Mobile Services.[31] The Government uses this band for military radars, air traffic control, military test range telemetry links, and tactical radio relays. NTIA indicates that 17 military radar sites in the 1390-1400 MHz band will have to be protected for fourteen years after the scheduled date for transfer of this band to non-Government uses.[32]
1427-1429 MHz	Assign after March 22, 2006 (1993 Budget Act reserved spectrum)/

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[29] *See* 47 CFR Section 2.106.

[30] At the end of the DTV transition, all analog stations, including those on channels 52-59 will cease operation. At that time, the DTV stations on channels 52-59 will be relocated to new channels in the DTV core spectrum- channels 2-51. *See Sixth Report and Order* in MM Docket No. 87-268, at paras. 82-84, and *Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order* in MM Docket No. 87-268, at paras. 42-45.

[31] *See* 47 CFR Section 2.106.

[32] *See 1995 NTIA Spectrum Report*, at Section 4, pp. 2-4 and Table 4-1.

	Available January 1, 1999/ The 1427-1429 MHz band is a segment of the 1427-1432 MHz band. (The 1429-1432) MHz segment has already been proposed for re-allocation to the Wireless Biomedical Telemetry Service in ET Docket No. 99-255.) This band is allocated internationally on a primary basis in Region 2 to the Fixed and Mobile Services, except that the 1427-1429 MHz segment is not available for Aeronautical Mobile use. The 1427-1429 MHz segment is also allocated on a primary basis in Region 2 to the Space Operation Service. Domestically, the 1427-1432 MHz band is allocated on a primary basis to the Government Fixed and Mobile Services, except that the 1427-1429 MHz segment may not be used for Aeronautical Mobile operations. The 1427-1429 segment is also allocated on a primary basis for available for Government and non-Government Space Operation applications and on a secondary basis for non-Government Fixed (telemetering) and Land Mobile (telemetering and telecommand) operations. The 1429-1432 MHz segment is also allocated on a secondary basis for non-Government Fixed (telemetering) and Land Mobile (telemetering and telecommand) operations.[33] The 1427-1432 MHz band is currently used by military tactical radio relay communications and military test range aeronautical telemetry and telecommand operations. The 1429-1432 segment is also used for privately funded passive research programs investigating signals of extraterrestrial origin. NTIA indicates that military airborne operations at 14 sites will be continued for 9 years after the scheduled date for transfer of this band to non-Government use.[34]
1432-1435 MHz	Auction by September 30, 2002/ Available January 1, 1999/ The 1432-1435 MHz band is allocated internationally on a primary basis in Region 2 to the Fixed and Mobile Services. Domestically, this band is allocated on a primary basis for Government Fixed and Mobile Services, and on a secondary basis for non-Government Land Mobile (telemetering and telecommand) and Fixed (telemetering) operations.[35] This band is also used for privately funded passive research programs investigating signals of extraterrestrial origin. NTIA indicates that military airborne operations will continue at 23 sites after the scheduled date for transfer of this band to non-Government use.[36]

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[33] *See* 47 CFR Section 2.106.

[34] *See 1995 NTIA Spectrum Report*, at Section 4, pp. 4-6 and Table 4-2.

[35] *See* 47 CFR Section 2.106.

[36] *See Second NTIA Spectrum Reallocation Report*, at Section 3, p. 37 and Table 3-4.

1670-1675 MHz	Assign after March 22, 2006 (1993 Budget Act reserved spectrum)/ Available January 1, 1999/ This band is allocated internationally on a primary basis in Region 2 to Fixed, Meteorological Aids, Meteorological-satellite, and Mobile Services. Domestically, the 1670-1675 MHz band is allocated on a primary basis to the Government and Non-Government Meteorological Aids and Meteorological-satellite Services.[37] NTIA indicates that in reallocating this band it will be necessary to protect two meteorological-satellite earth stations for the Geostationary Operational Environmental Satellite System (GOES), one at Wallops Island, Virginia and the other at Fairbanks, Alaska.[38]
1710-1755 MHz	Auction to commence after January 1, 2001, be completed by September 30, 2002/ Available January 1, 2001/ This band is allocated internationally on a primary basis in Region 2 to the Fixed and Mobile Services. Domestically, this band is allocated on a primary basis for Government Fixed and Mobile Services. In addition, radio astronomy services may use the 1718.8-1722.2 MHz band segment on an unprotected basis. This band is currently used for Government point-to-point microwave communications, military tactical radio relay, and airborne telemetry systems. NTIA indicates that, as required under the 1993 Budget Act, all microwave communication facilities in the 1710-1755 MHz band that are operated by Federal power agencies will continue to operate in the band and must be protected from interference.[39] A list of exempted Federal power agency microwave systems is presented in Appendix E of the *1995 NTIA Spectrum Report*.[40]
2160-2165 MHz	No required date for auction or assignment (emerging technologies spectrum)/ Available upon reallocation by the Commission to specific new services/ This band is allocated internationally on a primary basis in Region 2 to the Fixed, Mobile and Mobile-satellite Services (space-to-Earth). Domestically, this band is allocated on a primary basis to the non-Government Fixed and Mobile Services, and is also reserved on a co-primary basis with these services for emerging technologies, with

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[37] *See* 47 CFR Section 2.106.

[38] *See 1995 NTIA Spectrum Report*, Section 4, pp. 6-8.

[39] *See* 1993 Budget Act, Section 6003(a).

[40] *See 1995 NTIA Spectrum Report*, Appendix E. The 1993 Budget Act defines Federal power agencies at the Tennessee Valley Authority, the Bonneville Power Administration, the Western Area Power Administration, the Southwestern Power Administration, the Southeastern Power Administration, and the Alaska Power Administration.

allocations to specific services to be made in future proceedings.[41] This spectrum is currently occupied by common carrier and private fixed microwave stations that will need to be relocated under the provisions of the Emerging Technologies proceeding. The 2160-2162 MHz band segment is also used by fixed stations in the Multipoint Distribution Service that will be subject to the same relocation provisions.

2300-2305 MHz Assign before March 22, 2006/ Available August 1,1995/ This band is allocated internationally on a primary basis in Region 2 to the Fixed, Mobile, and Radiolocation Services and on a secondary basis to the Amateur Service. Domestically, the 2300-2305 MHz band is allocated on a secondary basis to the to the Amateur Service.[42] Effective August 10, 1995, any Government operations in these bands are on a non-interference basis to authorized non-Government operations. As noted above, use of the 2300-2305 MHz band will be subject to significant constraints in order to protect the reception of Government DSN signals in the adjacent 2990-2300 band.

2385-2390 MHz Auction by September 30, 2002/ Available January 1, 2005/ The 2385-2390 MHz band is allocated internationally on a primary basis in Region 2 to the Fixed, Mobile, and Radiolocation Services, and on a secondary basis to the Amateur Service. This band is allocated domestically on a primary basis to the Government Mobile and Radiolocation Services and the non-Government Mobile Service and on a secondary basis to the Government Fixed Service.[43] The 2385-2390 MHz band is used by the Government for aeronautical flight test telemetry and for scientific observations. NTIA indicates that Government and civilian operations in this band will continue at 17 sites for two years after the scheduled transfer date.[44] It also states that in reallocating the 2385-2390 MHz band, the Commission needs to consider that this band is immediately adjacent to airborne telemetry systems in the 2360-2385 MHz band. NTIA states that to reduce the potential for mutual adjacent band interference, reallocation of the band must be accompanied by mandatory commercial receiver and transmitter standards. NTIA further indicates that to provide protection to the planetary radar system operated by the Arecibo Radio

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[41] *See* 47 CFR Section 2.106.

[42] *Id*.

[43] *Id*. The 2398-2390 MHz band is adjacent to the 2390-2400 MHz band that the Commission allocated for unlicensed PCS and amateur operations in ET Docket No. 94-32 (see above).

[44] *See Second NTIA Spectrum Reallocation Report*, at Section 3, pp. 46-49, and Table 3-6.

	Astronomy Observatory, non-Government airborne and space-to-Earth transmissions will be prohibited on 2385-2390 MHz in Puerto Rico.
4635-4660 MHz	Assign before March 22, 2006/ Available January 1,1997/ The 4635-4660 MHz band is allocated internationally on a primary basis in Region 2 to the Fixed, Fixed Satellite (space-to-Earth), and Mobile Services. Domestically, this band is allocated on a primary basis to the Government Fixed and Mobile Services and to the non-Government Fixed-satellite (space-to-Earth) Service.[45] The 4635-4660 MHz band is used for military airborne telemetry and high-power tropospheric scatter communications systems. NTIA indicates that Government airborne operations in this band must be protected at three sites for 15 years.[46]

NTIA has identified the following four bands that may be auctioned as substitutes for the 15 megahertz that was required to be reallocated from the 1990-2110 MHz band under the 1997 Budget Act. These must be reallocated and auctioned by September 30, 2002:

944-960 MHz	The 944-960 MHz band is allocated internationally in Region 2 to the Fixed and Mobile Services. Domestically this band is allocated to the Auxiliary Broadcasting, Fixed Microwave, International Public Fixed, and Public Mobile Services.[47] Frequencies in this band are also available for assignment for multiple address systems and mobile operations on a primary basis. The 944-952 MHz segment of this band is used by the Broadcasting Service for studio-to-transmitter and inter-city audio links; the 952-960 MHz segment is used by the Fixed Service for private operational fixed links. Multiple address systems operate mainly in the 952-960 MHz segment. NTIA observes that there are 20,000 existing licensees in this band.
1390-1400 MHz 1427-1432 MHz 1670-1675 MHz	These bands were transferred from Government to non-Government use pursuant to the 1993 Budget Act, as discussed above. Substitution of a portion of these bands for the 15 megahertz that was to be reallocated from the 1990-2110 MHz band therefore would not increase the available spectrum.
2500-2690 MHz	Internationally, the 2500-2690 MHz band is allocated in Region 2 on a

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[45] *See* 47 CFR Section 2.106.

[46] *See 1995 NTIA Spectrum Report*, Section 4, pp. 21-23, and Table 4-5.

[47] *See* 47 CFR Section 2.106.

(Unauctioned Parts)	primary basis to the Fixed, Fixed-satellite (space-to-Earth), Mobile (except aeronautical mobile), and Broadcasting-satellite Services. The 2655-2690 MHz segment is also allocated on a primary basis for the Fixed-satellite (Earth-to-space) Service, and on a secondary basis for the Earth Exploration-satellite (passive), Radio Astronomy, and Space Research (passive) Services. Domestically, the 2500-2690 MHz band is allocated on a primary basis to the non-Government Fixed and Broadcasting-satellite Services. The 2640-2690 MHz segment is also allocated on a secondary basis to the Government and non-Government Earth Exploration-satellite (passive) and Space Research (passive) Services. The 2655-2690 MHz band is allocated on a secondary basis to the Radio Astronomy Service. The 2500-2690 MHz band is used mainly by the multipoint distribution service (MDS), instructional TV fixed service (ITFS), and private operational fixed service (OFS) to provide wireless cable services, rural health care, and educational programming.[48] The 66 megahertz designated for MDS, in the bands 2596-2644 MHz, 2650-2656 MHz, 2662-2668 MHz, and 2674-2680 MHz, was auctioned by the Commission in 1996.[49] However, existing licenses in the auctioned frequencies were grandfathered.[50]
3650-3700 MHz	This band was transferred from Government to non-Government use pursuant to the 1993 Budget Act, and has been proposed by the Commission for reallocation to the Fixed Service in ET Docket No. 98-237, as indicated above. Substitution of a portion of this band for the 15 megahertz that was to be reallocated from the 1990-2110 MHz band therefore would not increase the available spectrum. This band, together with the 3600-3650 MHz band, has been requested for tracking, telemetry,

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[48] *Id*.

[49] *See* 47 CFR Section 21.901.

[50] *See Report and Order* in MM Docket No. 94-131, 10 FCC Rcd 9589 (1995), at para. 25.

and control functions for broadband satellite services.

APPENDIX B

Proposed Allocations Pending

Band	Auction or Assignment Date/Available Date/Considerations
746-764 MHz 776-794 MHz	Reallocation of this spectrum was required by the Balanced Budget Act, but is subject to a separate proceeding already underway. Current law requires auction by September 30, 2002. While the spectrum will not be completely available until January 1, 2007, or possibly later on a market-by-market and channel-by-channel basis, depending on the availability of DTV television service and receivers, new licensees may operate on an overlay basis prior to reallocation. Legislation is currently pending before Congress, which would accelerate the auction of this spectrum to 2000. *See Sixth Report and Order* in MM Docket No. 87-268, 12 FCC Rcd 14588 (1997); *Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order* in MM Docket No. 87-268, 13 FCC Rcd 7418 (1998); and *Report and Order* in ET Docket No. 97-157, 12 FCC Rcd 22953 (1998).
1395-1400 MHz 1429-1432 MHz	These bands were transferred from Government to non-Government use pursuant to the 1993 Budget Act. The Commission has proposed to reallocate this spectrum for the Wireless Medical Telemetry Service. *See Notice of Proposed Rule Making* in ET Docket 99-255, adopted July 14, 1999, FCC 99-182.
2110-2150 MHz	Reallocation of this spectrum and assignment by competitive bidding was required by the Balanced Budget Act. The Commission had previously allocated this band to fixed and mobile services as part of the emerging technologies proceeding, but now intends to consider it for allocation to Advanced Mobile and Fixed Communications Service (AMFCS). Current law requires auction by September 30, 2002. *See Memorandum Opinion and Order and Third Notice of Proposed Rule Making and Order* in ET Docket No. 95-18, 13 FCC Rcd 23949 (1998).
3650-3700 MHz	This band was transferred from Government to non-Government use pursuant to the 1993 Budget Act, and has been proposed by the Commission for reallocation to Fixed Service. See *Memorandum Opinion and Order* in ET Docket No. 98-237, 14 FCC Rcd 1295 (1998).

APPENDIX C
Additional Legislative Considerations

The Thurmond Act

In addition to the above considerations, the use of spectrum reallocated from existing Government uses will be significantly affected by the Strom Thurmond National Defense Authorization Act for the Fiscal Year 1999 (Thurmond Act).[51] Section 1064 of the Thurmond Act requires that new licensees for spectrum transferred from Government use to compensate any relocating Federal entities for the expenses of relocating to another frequency or frequencies. Such expenses may include any modification, replacement or reissuance of equipment facilities, operating manuals, or regulations incurred by that entity. Any such Federal entity that proposed to so relocate is required to notify the NTIA, which will in turn notify the Commission, before the auction concerned of the marginal costs anticipated of any relocation or modifications necessary to accommodate prospective licensees. The Commission is then to notify potential bidders of the estimated relocation or modification costs based on the geographic area covered by the proposed licensees before the auction. With the exception of the 1710-1755 MHz band, the Thurmond Act does not apply to Government Spectrum identified for relocation in the *1995 NTIA Spectrum Report.* However, it does apply to Government spectrum identified for transfer in the *1995 NTIA Spectrum Report* if the Commission has not identified that spectrum for service or assigned licenses or otherwise authorized service for that spectrum. As required by the statute, NTIA and the Commission are developing procedures for implementation of the Thurmond Act provisions, including a process for resolving any differences that arise between the Government and commercial licensees regarding estimates of relocation or modification costs.

The National Defense Authorization Act of Fiscal Year 2000:[52]

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[51] The Strom Thurmond National Defense Authorization Act for the Fiscal Year 1999, Pub. L. No. 105-261, 112 Stat. 1920, Section 1064 (1998).

[52] See "National Defense Authorization Act for the Fiscal Year 2000", Public Law: 106-65, 106th Cong, 1st Session, Section 1062(a) and (b).

The National Defense Authorization Act of Fiscal Year 2000 imposes certain requirements on NTIA and the FCC related to spectrum management. Specifically, the legislation requires an interagency review and assessment of the progress made in implementation of national spectrum planning, the impact of reallocations of Federal Government spectrum pursuant to statute to non-Federal use, and future spectrum requirements of agencies of the Federal Government.

November 18, 1999

Separate Statement
of
Commissioner Susan Ness

Re: ***Principles for Reallocation of Spectrum to Encourage the Development of*** Telecommunications Technologies for the new Millennium

I am pleased that the Commission today has adopted a spectrum policy statement which will serve as a roadmap for future spectrum allocation, service, and assignment orders. The policy statement reflects public comments submitted both at the Spectrum *En Banc* held last spring and at the fora held this fall to discuss Chairman Kennard's excellent Five Year Strategic Plan for the FCC. I applaud the Office of Plans and Policy, the Office of Engineering and Technology, and the International, Mass Media and Wireless Telecommunications Bureaus for working together to develop this document.

Spectrum management is one of this agency's most critical core functions. Yet, too often our decisions are made on an ad hoc basis -- band by band -- rather than as part of a well-articulated spectrum policy and plan. To be sure, the Commission has made tremendous progress in revamping its spectrum policies over the last few years. We have emphasized flexible use and have limited our reliance on standard-setting, to enable licensees to adjust their services to the rapidly changing marketplace without having to come back to the Commission for approval. We have instituted auctions to assign licenses where there are mutually exclusive applications, and have streamlined the application process -- all to insure that licenses are distributed as expeditiously as possible to those who value them the most.

But more remains to be done. This policy statement is only a first step, but a big step toward generating a comprehensive and harmonized spectrum policy. It also serves us well by publicly identifying the allocation possibilities for 210 MHz of spectrum the FCC contemplates releasing for non-Federal governmental use over the next few years. By taking this first step, we can hope to achieve the most efficient use of this national resource for the benefit of the American public.

The policy statement sets forth several principles to guide our spectrum management. It signals increasing reliance on flexible use of spectrum allocations, but recognizes that there are times when the public is better served by more direction. It ignites debate on new approaches to auctioning spectrum, including approaches that will encourage development of a vibrant secondary market. It sparks discussion of new spectrum technologies -- such as software defined radio and ultra-wideband -- which may significantly impact spectrum allocations and the use of spectrum in the future. While the policy statement is not intended to be a complete treatise on the subject of spectrum management,[53] it offers the opportunity to focus comprehensively and globally on our spectrum policy.

Moreover, the policy statement provides us with suggested allocations to jumpstart discussion on the initiation of new services. While each allocation must still be the subject of a rulemaking proceeding in which extensive public comment will be sought, the roadmap provided will be an important guide to developing our comprehensive and harmonized spectrum policy. But we must use the opportunity it presents wisely.

First, the visualization of the full mosaic, rather than the study of one tile at a time, will better focus our allocations to meet future needs for spectrum. By cataloguing up front the different bands of spectrum we expect to offer to the public over time, we will enable stakeholders to plan ahead. Equipment manufacturers, service providers, and the financial community all need time to draft business plans, design equipment, and secure funding well in advance of any application or auction date. Additionally, consistent spectrum policies that include a long-term view of all of our spectrum resources will provide regulatory certainty enabling industry players to move forward with long-term plans.

Second, the visualization of the full mosaic recognizes that we live in a global telecommunications world, and urges harmonization, where practicable, with allocations abroad. Global plans can prevent spectrum waste and inefficiency at our borders. Such plans also enable manufacturers to achieve scale, thereby lowering the cost of providing services and equipment to the public. I am pleased that we are participating in bilateral and multilateral discussions with our counterparts in other administrations to work through allocation and sharing issues well in advance of the World Radiocommunications Conference.

Third, as we proceed with spectrum planning, we need to work with our colleagues in the federal government and with industry to design ways to eliminate inefficient use of the spectrum. We should explore, where appropriate, how traditional services can be relocated to facilitate deployment of new services, as we did in the Emerging Technologies band. Where conventional government or industry uses can be fully accommodated more efficiently or in other bands, we should craft incentives to achieve such goals.

Finally, the creation of the Spectrum Policy Executive Committee, under the inspired leadership of Dale Hatfield, will enable us to effectuate a forward looking spectrum policy that better positions us for global communications. I commend Chairman Kennard for taking this step and I plan to work closely with this Committee.

Conclusion

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[53] For example, I envision that we will have greater discussion in future items on spectrum sharing and the unlicensed use of spectrum. And nowhere here do we address issues such as spectrum warehousing or our standards for addressing the renewal of licenses for auctioned spectrum.

The policy statement we adopt today moves us well along the road toward a more responsive and robust spectrum management regime. I look forward to continuing to work with Chairman Kennard, my colleagues and staff at the FCC, other federal agencies, and our international counterparts to advance the efficient use of the spectrum for the benefit of the public.

SEPARATE STATEMENT OF COMMISSIONER HAROLD FURCHTGOTT-ROTH,
Approving in Part and Dissenting in Part

Re: Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium

I commend the Office of Engineering and Technology, the Wireless Telecommunications Bureau, the International Bureau, and the Office of Plans and Policy for their fine contributions to this Policy Statement. The Statement sets forth helpful and comprehensive information about the potential uses of the remaining available spectrum and provides important regulatory guidance to the industry. The Statement also brings together information from dozens of other spectrum proceedings and decisions. I write separately to express my disappointment that the important purposes of this document have been undermined by needless forays into the legislative realm.

Absent an express request from Congress, I do not believe that making recommendations about how the law should be changed is an appropriate function for the Federal Communications Commission.[54] The Commission is bound to take the law as Congress makes it and to implement the law objectively. Moreover, as a creature of Congress' delegated authority, the Commission takes its direction from that body, not the other way around.

Speculation and advocacy regarding our statutory authority (see ¶¶ 12-14) seems particularly inappropriate in this Policy Statement.[55] The document, in my view, is designed to set out the Commission's spectrum management plans for the next decade. The Commission's authority may well undergo significant change during that period. However, picking out one or two possible changes does not give the public or industry any helpful information about our approach. Rather, this document should solely outline our spectrum plans based on our existing authority. Speculation is not what industry and consumers need; advocacy is not what the American people pay us to do.

A Policy Statement should inform the public about how an agency intends to implement the law, not how an agency intends to lobby for its change.

For these reasons, I would not have addressed pending or future legislative action in this item.

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[54] *See, e.g,* 1997 Report on the Status of Competition, 13 FCC Rcd 1034 (1998) (separate statement of Commissioner Harold Furchtgott-Roth); Satellite Delivery of Network Signals to Unserved Households for Purposes of the Satellite Home Viewer Act (Feb. 2, 1999)) (separate statement of Commissioner Harold Furchtgott-Roth).

[55] These legislation-based proposals include spectrum fees, the use of tax certificates, and "two-sided" auctions.